



An Introduction to  
Applied Multilevel Analysis  
4 December - 7 December 2013

THE UNIVERSITY *of York*  
The Department of Health Sciences

---

# An Introduction to Multi-Level Analysis

## Level 7 (Masters level)

### 10 Credits



“Social and medical researchers have long been concerned about the need to properly model complex data structures, especially those where there is a hierarchical structure such as pupils nested within schools or measurements nested within individuals... failure to take account of such structures in standard models can lead to incorrect inferences. What has been less well appreciated is that a failure to properly model complex data structures makes it impossible to capture the complexity that exists in the real world.” **Harvey Goldstein**

This is an advanced course, of interest to those working with multilevel data who wish to further their knowledge of regression analysis.

The course aims to equip you with the necessary skills and knowledge to facilitate analysis of multilevel data by means of lectures and hands-on analysis of data from real studies, using the statistical software package STATA. The course covers multilevel modelling for the following types of response data: continuous, binary, count and time-to-event data. It also covers Cluster Randomised Controlled Trials.

### Entry Requirements

A first degree in a health related discipline or social sciences is required, plus you should be able to demonstrate that you have knowledge of regression analysis. Applicants are assessed on a case-by-case basis, and we follow the University's Equal Opportunities policy. All applications must be approved by your manager or employer.

### Course Structure

The course is supported by the Virtual Learning Environment (VLE) with online materials and discussion boards.

The four day teaching event will run from Wednesday 4 December 2013 to Saturday 7 December 2013.

### Assessment Method

There is an optional computer based and 'open book' assessment.

### Skills and Competencies you will gain

At the end of the course you will be able to:

- identify when to use a multilevel regression approach versus ordinary regression approach
- identify different types of multilevel structures
- distinguish between levels and variables and between fixed and random effects
- distinguish between different outcomes and correspondingly carry out the appropriate multilevel regression
- demonstrate, by example, how to formulate a multilevel model and how to interpret the results obtained from fitting the model
- use multilevel modelling for the analysis of cluster randomised trials
- use a statistical package to carry out analyses.

### Funding

For participants from the commercial sector, the course fees are £800 for those who do not wish to complete the assessment or £950 for those who do wish to sit the assessment. A concessionary fee of £600 will apply to academic staff and students.

“The real data examples given all the way through the course aids understanding of the concepts.”

---

### For further information and to apply

For further information and to apply, please contact our Student Information Service on (01904) 321321 or [dohs-pg-enquiries@york.ac.uk](mailto:dohs-pg-enquiries@york.ac.uk)

Web: [www.york.ac.uk/healthsciences/gradschool/intro-multi](http://www.york.ac.uk/healthsciences/gradschool/intro-multi)